What is claimed is;

1. An image-capturing apparatus comprising:

an image-capturing unit having a plurality of pixels disposed two-dimensionally;

5 an adding unit that generates an image by adding outputs of pixels present around a given pixel at the image-capturing unit to an output of the given pixel;

an image processing unit that processes the image resulting from addition executed by the adding unit; and

10 an addition pattern generating unit that generates an addition pattern with which pixel outputs are added together by the adding unit in correspondence to a type of image processing to be executed by the image processing unit.

15 2. An image-capturing apparatus according to claim 1, wherein:

when the image processing unit is to execute image processing for detecting an edge in the image, the addition pattern generating unit generates the addition pattern in 20 correspondence to a type of edge to be detected by the image processing unit.

3. An image-capturing apparatus according to claim 1, wherein:

25 when the image processing unit is to execute image

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processing for detecting a predetermined target object, the addition pattern generating unit generates the addition pattern in correspondence to the target object to be detected by the image processing unit.

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4. An image-capturing apparatus according to claim 1, wherein:

when the image processing unit changes the type of image processing for each captured image frame, the addition pattern

10 generating unit generates the addition pattern in correspondence to the type of image processing for the each captured image frame.

5. An image-capturing apparatus according to claim 2,

15 wherein:

when the image processing unit changes the type of edge to be detected for each captured image frame, the addition pattern generating unit generates the addition pattern in correspondence to the type of edge to be detected which is

20 altered for the each captured image frame.

6. An image-capturing apparatus according to claim 1, wherein:

a number of pixels the outputs of which are added together

25 with the addition pattern generated by the addition pattern

generating unit in correspondence to the type of image processing is adjusted in conformance to one of a frame rate and a length of exposure time set for the image-capturing unit.

5   7.   An image-capturing apparatus according to claim 2, wherein:

a number of pixels the outputs of which are added together with the addition pattern generated by the addition pattern generating unit in correspondence to the type of edge to be

10   detected is adjusted in conformance to one of a frame rate and a length of exposure time set for the image-capturing unit.

8.   An image-capturing apparatus according to claim 3, wherein:

15   a number of pixels the outputs of which are added together with the addition pattern generated by the addition pattern generating unit in correspondence to the target object to be detected is adjusted in conformance to one of a frame rate and a length of exposure time set for the image-capturing unit.

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9.   An image-capturing apparatus comprising:

an image-capturing unit having a plurality of pixels disposed two-dimensionally;

an adding unit that generates an image by adding outputs

25   of pixels present around a given pixel at the image-capturing

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unit to an output of the given pixel;

an image processing unit that processes the image resulting from addition executed by the adding unit; and

an addition pattern generating unit that generates an

5 addition pattern with which pixel outputs are added together by the adding unit in correspondence to vehicular behavior detected by a vehicular behavior detection unit.

10.   An image-capturing apparatus comprising:

10 an adding unit that generates an image by adding outputs of pixels present around a given pixel at an image-capturing unit having a plurality of pixels disposed two-dimensionally to an output of the given pixel;

an image processing unit that processes the image

15 resulting from addition executed by the adding unit; and

an addition pattern generating unit that generates an addition pattern with which pixel outputs are added together by the adding unit in correspondence to results of a vibration detection executed by a vibration detection unit that detects

20 a vibration of the image-capturing apparatus.

11.   An image-capturing apparatus according to claim 1, further comprising:

an A/D converter that converts an analog image signal

25 to a digital image signal, wherein:

a number of bits output from the A/D converter is set to a value obtained by adding $\log_2$ (number of pixels used for addition) to a number of bits output from the adding unit.

5   12.   An image-capturing apparatus according to claim 9, further comprising:

an A/D converter that converts an analog image signal to a digital image signal, wherein:

a number of bits output from the A/D converter is set
10   to a value obtained by adding $\log_2$ (number of pixels used for addition) to a number of bits output from the adding unit.

13.   An image-capturing apparatus according to claim 10, further comprising:

15   an A/D converter that converts an analog image signal to a digital image signal, wherein:

a number of bits output from the A/D converter is set to a value obtained by adding $\log_2$ (number of pixels used for addition) to a number of bits output from the adding unit.
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14.   An image-capturing apparatus comprising:

an image-capturing means having a plurality of pixels disposed two-dimensionally;

an adding means for generating an image by adding outputs
25   of pixels present around a given pixel at the image-capturing

means to an output of the given pixel;

an image processing means for processing the image resulting from addition executed by the adding means; and

an addition pattern generating means for generating an

5   addition pattern with which pixel outputs are added together by the adding means in correspondence to a type of image processing to be executed by the image processing means.

15.   An image-capturing apparatus comprising:

10   an image-capturing means having a plurality of pixels disposed two-dimensionally;

an adding means for generating an image by adding outputs of pixels present around a given pixel at the image-capturing means to an output of the given pixel;

15   an image processing means for processing the image resulting from addition executed by the adding means; and

an addition pattern generating means for generating an addition pattern with which pixel outputs are added together by the adding means in correspondence to vehicular behavior

20   detected by a vehicular behavior detection means.

16.   An image-capturing apparatus comprising:

an adding means for generating an image by adding outputs of pixels present around a given pixel at an image-capturing

25   means having a plurality of pixels disposed two-dimensionally

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to an output of the given pixel;

an image processing means for processing the image resulting from addition executed by the adding means; and

an addition pattern generating means for generating an
5   addition pattern with which pixel outputs are added together by the adding means in correspondence to results of a vibration detection executed by a vibration detection means for detecting a vibration of the image-capturing apparatus.

10   17.   An image-capturing method comprising:

generating an image by adding outputs of pixels present around a given pixel at an image-capturing unit having a plurality of pixels disposed two-dimensionally to an output of the given pixel;

15   processing the image resulting from addition of pixel outputs; and

generating an addition pattern with which the pixel outputs are added together in correspondence to a type of image processing to be executed.

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18.   An image-capturing method comprising:

generating an image by adding outputs of pixels present around a given pixel at an image-capturing unit having a plurality of pixels disposed two-dimensionally to an output
25   of the given pixel;

processing the image resulting from addition of pixel
outputs; and

generating an addition pattern with which the pixel
outputs are added together in correspondence to vehicular
5   behavior detected by a vehicular behavior detection unit.

19.   An image-capturing method comprising:

generating an image by adding outputs of pixels present
around a given pixel at an image-capturing unit having a
10   plurality of pixels disposed two-dimensionally to an output
of the given pixel;

processing the image resulting from addition of pixel
outputs; and

generating an addition pattern with which the pixel
15   outputs are added together in correspondence to a vibration
that causes the image to be blurred.